



## “Pingado Dilemma”: Is formal contract sweet enough?



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### ABSTRACT

“Pingado” is a Brazilian beverage similar to cappuccino, macchiato. For a good “pingado”, coffee and milk should be of good quality. The formal institutions ensure the minimum attributes of quality for coffee and for milk in Brazil. However, in order to reach consumer desirable quality attributes for a differentiated “pingado” the transactions between farmers and agroindustry in quality-driven systems is likely to be conducted with hybrid forms. Thus, “Pingado Dilemma” involves the interactions between private and public institutions affect the combination of formal and informal governance mechanisms in transactions, in both chains, and involve complexities in terms of obligations to do and obligations to give in contract farming. This paper aims at analyzing the contract farming and the role of public and private institutions in transactions between farmers and agroindustry in Brazilian high-quality dairy and coffee chains. The research design used in this study is a case study based on multiple cases. The results indicate that while in dairy chain the private institutions reinforce public requirements (formal institutions), for the coffee sector, the role of private institutions is to establish and guarantee a new level of quality and differentiation. Interactions between private and public institutions affect the combination of formal and informal governance mechanisms in transactions, in both chains, and involve complexities in terms of obligations to do and obligations to give in contract farming.

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### 1. Introduction

Globalization and recent transformations have affected agrifood sector, implying the emergence and consolidation of private standards and the modernization of procurement system (Swinnen and Maertens, 2007; Reardon et al., 2009). Transformations in agrifood chains have implied the emergence of contracts in transactions between small farmers and processing companies (Reardon et al., 2009). Such changes, on its turn, have influenced small farmers, bringing incentives or farmers' exclusions from market (Reardon and Farina, 2002; Henson, 2008; Reardon et al., 2009).

The possibility of differentiation and value adding for farmers in high-quality value chains indicates an important path to promote sustainable growth and the improvement of the income-earning capacities in rural areas. According to Kaplinsky and Morris (2001, p. 25), “(...) the search for sustainable income growth

requires producers to position themselves precisely in non-commodity (...) activities in the value chain”. Nevertheless, it requires the consideration of power and governance relations for value distribution along the chain, especially when it comes to poor and developing countries (Fitter and Kaplinsky, 2001). Thus, appropriate governance structures are important not only to guarantee high quality attributes along the chain, but also to promote the share of value-chain rents and returns to differentiation efforts to poor producers, favoring rural development (Fitter and Kaplinsky, 2001; Maertens and Swinnen, 2015).

High-quality value chains tend to comprise the combination of public and private institutions, demanding higher levels of coordination and the adoption of more complex transaction mechanisms, *vis a vis* commodity chains. Differentiation and high-value chains tend to demand more active chain governance (Fitter and Kaplinsky, 2001; Gereffi et al., 2005; Maertens and Swinnen, 2015). In Transaction Cost Economics approach, it means more complex governance structures (Williamson, 1985), sometimes toward contract farming or even vertical integration (Maertens and Swinnen, 2015). In this context, Trienekens et al. (2012) highlights

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the right balance of formal (contracts) and informal (agreements, trust, commitment and reputation) governance mechanisms as a challenge in complex dynamic food supply chains. According to [Maertens and Swinnen \(2015\)](#), the way contract farming is arranged determines the degree in which small farmers will be integrated to global chains. Thus, contract farming consists on an important mechanism that may include or exclude small farmers, affecting rural development.

Coffee and milk productions are typically developed by small family-based farmers in Brazil. Thus, understanding the mechanisms of governance in high-quality coffee and dairy chains, as well as the role of public and private institutions, seems to be of great importance to analyze chain performance and rural development.

“Pingado” is a traditional Brazilian beverage composed of milk with a coffee drop. Beverages alike are very popular worldwide with different names, such as cappuccino, mocha, macchiato, and so on. For having a good “pingado”, coffee and milk should be of good quality. For food, quality is not limited to safety, although these terms can be confusing. According to [FAO and WHO \(2003\)](#), quality includes attributes that influence the product's value to the consumer. This includes negative and positive attributes. Negative attributes can be considered contamination with filth, discoloration, off-odors, amongst others; positive attributes are the origin, color, flavor, texture and processing method of the food.

Public and private institutions play an important role in governing quality attributes, such as those concerning food safety, food quality and social and environmental aspects ([Giovannucci and Reardon, 2000](#)). Globalization and trade transformations have raised discussions about the role, the complementarities and the interaction of public and private standards in agri-food systems. Private standards are taken as important mechanisms to fulfill public standard gaps, to enable differentiation and to support chain governance in developing countries, including in Brazil ([Reardon and Farina, 2002](#)).

In terms of coffee, high-quality product is desirable for a good “pingado”, such as a specialty coffee, instead of a commodity one. According to the Specialty Coffee Association of America – SCAA, a specialty coffee in its green state must be free of primary defects, free from unclean odors, properly sized and dried, and must present a cup free of faults and taints and have distinctive attributes ([SCAA, 2017](#)). In Brazil, the designation of specialty coffee follows SCAA methodology, which is a private institution. The Brazilian Specialty Coffee Association – BSCA – also considers certified origin, organic, fair trade and “gourmet” coffee as specialty coffee ([BSCA, 2017](#)).

In terms of milk, the legislation (public institution) states that it should be produced under the sanitary rules (NI62), which ensure microbiological safety. However, the production of high-quality milk usually transcends the public rules requirements, comprising higher microbiological and sanitary standards, as well as higher levels of protein and fat. Thus, interactions between private and public standards prevails in those systems.

In order to coordinate and guarantee required quality, transactions between farmers and agroindustry performed in dairy and coffee chains is likely to be conducted with hybrid forms, as contract farming, or vertical integration.

Under the consideration of: (1) the complex interaction between private and public institutions in food supply chains, especially when it comes to high-quality chains; (2) the emergence of contract farming in developing countries, especially in high-value chains; (3) the need for balance of formal and informal governance mechanisms in transactions between farmers and downstream agents; and (4) the role of governance structures in promoting value distribution and sustainable growth for small farmers in developing countries; the research problem conducting

this study is: “how is contract farming presented in transactions between farmers and agroindustry in high-quality coffee and dairy chains in Brazil?” In this sense, this paper analyzes the contract farming and the role of public and private institutions in transactions between farmers and agroindustry in Brazilian high-quality dairy and coffee chains.

This article is organized in five parts. Following the introduction, the second section presents the theoretical background, based on New Institutional Economics, Transaction Cost Economics and contract farming. The third section presents the methodology adopted to reach this paper's purposes. The fourth section describes the results, an overview of institutional environment for coffee and milk, the hybrid governance structure and multiple case study description. The fifth section outlines the final remarks and research agenda.

## 2. Theoretical background

The analysis of hybrid forms in this paper, specifically considering contract farming, is based on New Institutional Economics (NIE) and its micro analytical branch of Transaction Cost Economics (TCE).

The institutional environment establishes the “rules of game” that influence the agents' behavior for governance structure choice. According to the New Institutional Economics (NIE), formal institutions (constitutions, laws, and property rights) and informal institutions (taboos, customs, traditions, and codes of conduct) are taken into account, which compose the institutional environment ([North, 1990](#)).

Institutions are devised to reduce uncertainty and to create a favorable environment for decision-making process to the exchange of goods and services ([North, 1990; 1991; 2000](#)). Formal institutions facilitate trade and the conflict solutions, which are relied on centralized third party, such as arbitrations and judges. In terms of informal institutions, the conflicts are carried out through private parties in a decentralized mode ([Aruñada, 2001](#)). Private participants in the exchange of goods and service guarantee the adaptation required from changes ([Jannarelli, 2012; Ferrarese, 2002](#)).

Informal institutions interfere in the coordination process of agricultural production; reduce uncertainties in trade of agricultural goods and services; and guarantee for contract performance through self-enforcement ([North, 1991; 2000; Stzajn et al., 2005](#)). According to [Azevedo \(2000\)](#), informal constrains are present in agricultural transactions in many different ways. Although informal institutions are important to the market by providing flexibility for economic agents involved in agricultural production system, State interference with formal institutions is important to carry out more impersonally exchange of goods and services ([Keefer and Shirley, 2000](#)).

Institutional environment is also considered as a combination of public and private institutions ([Henson and Humphrey, 2010](#)). Private and public institutions coexist and are complementary instruments, providing more efficient outcomes than the use of one type of institution isolated ([Klein, 1992; Lazzarini et al., 2004; Watanabe and Zylbersztajn, 2014](#)).

Once institutions facilitate economic exchange, transaction costs are reduced, enabling the system to work more efficiently. For [North \(2000\)](#), transaction cost is the cost of specifying and measuring the characteristics of what is being negotiated and the cost of forcing the contract performance. In Transaction Cost Economics (TCE), the concept of transaction cost refers to a less costly process of contracting and its *ex-post* alignment ([Williamson, 1990](#)). Economizing transaction cost means achieving the lowest cost of making the economic system work, which is the cost of planning,

adapting and monitoring the arrangement (Williamson, 1985).

Institutional environment influences the institutional arrangement for economic transactions (Williamson, 1985; 1990). The institutional environment englobes public and private standards and institutional design plays an important role on governance structures and chain efficiency (Henson and Humphrey, 2010; Maertens and Swinnen, 2015). As institutions, standards can work as mechanisms for chain coordination, defining and enforcing the rules of the game (Giovannucci and Reardon, 2000).

Institutional arrangement refers to mode of governance or mode of organization, taking into account the forms in which agents implement and exchange their production within an environment of rules defined by institutions. Thus, while institutional environment comprises the “rules of the game”, institutional arrangements are “the play of the game” (Williamson, 2000). Moreover, institutional arrangements are related to organizational arrangements that include, according to Ménard and Shirley (2005, p.1):

- (i) markets, firms, and the various combinations of forms that economic actors develop to facilitate transaction and (ii) contractual agreements that provide a framework for organizing activities, as well as (iii) the behavioral traits that underlie the arrangements chosen.

TCE has increasingly paid attention on hybrids (Ménard, 2013). Hybrids can be of different forms, ranging from quasi-integration to market-similar transactions, and researches on hybrids have gained greater importance (Ménard, 2013).

The hybrid governance structure is a long-term relation that preserves autonomy of economic agents involved in the relation and provides specific safeguard (Joskow, 1985; Ménard, 1996; Jannarelli, 1997; Williamson and Masten, 1999). In general, the agroindustry performs prior arrangements (formal contracts or oral agreements) with farmers to purchase the entire output at a pre-determined price and obligations, such as anticipation of inputs, provision of technical assistance, rigorous monitoring for producing mode. Although farmers and agroindustry are legally autonomous, they are interdependent for better control of production to match consumer demand of product with quality attributes (Traisci, 1992; Prévault, 1996; Jannarelli, 2012; Albissini, 2003).

According to the level of production control by the buyer, different levels of dependence are observed within hybrid governance structures (Ménard, 1996; Martinez, 1999; Worley and McCluskey, 2000; Jannarelli, 2012). The lowest degree of control is the agreement based on price and delivery of products. Moreover, the whole process of production and the risk belong to the farmer. In terms of intermediate level of control, the parts share liability since the contractor interferes at the farmer's decisions in the production process. The highest level of control is the relationship that the contractor provides all inputs for the agricultural production, besides the technical assistance, and the risk of production belongs to the contractor.

In hybrid form, firms are moving away from discrete transactions and focusing more on relational exchanges (Zuurbier and Trienekens, 2000). Relational exchanges involve repeated transactions without a formal contract. In this case, informal negotiation mechanisms prevail since the reputation of the economic agents involved in the relation is taken into account. According to McNeil (1978), relational contract sustains ongoing relations in long and complex contracts by adjusting processes of a more thoroughly transaction-specific.

An example of hybrid governance structure is contract farming, which involves a bilateral dependency relation between farmer and buyer (Silva, 2005; Jannarelli, 2012; Jia and Bijman, 2012; Pultrone, 2012). Contract farming is used in agrifood supply chains to reduce

transaction costs and to ensure access to agricultural products with certain specifications, such as quality, quantity, and origin, among others (Silva, 2005; Pultrone, 2012; Maertens and Swinnen, 2015). Quality requirements imply the need for investments in rural production, such as in equipment, technology, learning and upgrading techniques and methods, among others (Giovannucci and Reardon, 2000). According to Ménard (2013, p. 1090), “(...) the more strategic the rights and assets shared the more formal the governance becomes”. It is aligned to TCE approach, once strategic assets generally comprise specific investments and asset specificity. According to Williamson (1985, 1990), the more specific the assets and the investments involved in transactions, the higher the complexity of governance structures. In this sense, transactions involving high-quality products may require formal mechanisms, explaining the abundance of contract farming in high-value chains.

Concerning quality attributes in agrifood chains, they are related to special characteristics of products and processes (Giovannucci and Reardon, 2000; Trienekens et al., 2012). For Giovannucci and Reardon (2000), product characteristics can be related to quality, safety and “authenticity”, involving grades and standards in product and process.

Quality attributes can be classified in intrinsic or extrinsic ones. The former comprises, for example, sensory attributes (e.g. taste, color, tenderness), health attributes (e.g. food safety, functional foods) and convenience attributes (e.g. time and energy saving). The latter are those not embedded in products, related to process technology (e.g. animal welfare, organic), impact on environment, people and society, and supply and demand features (e.g. Fairtrade) (Trienekens et al., 2012).

The concept of contract farming is very broad and agreements may vary widely (UNIDROIT et al., 2015). Different models for structure of contract farming are observed by FAO in the Contract Farming Resource Center (FAO). Within contract farming, different types of arrangements with different levels of dependency between the parties involved in the transaction are carried out.

Contract farming, as well as other hybrid forms, is an institutional arrangement, an institutional structure of production (Coase, 1998), or a mechanism of governance (Williamson, 1996). Through contract farming, farmers participate in a coordinated production system. Different institutions and the complexity of economic–legal relations compose a complex governance structure that increasingly manifests the interdependence between different sectors and the need for an appropriate legal framework (Jannarelli, 2012).

Poppo and Zenger (2002) state the complementarity of contracts (formal) and relational governance (informal) in transactions, and hybrids comprise a combination of formal and informal governance mechanisms. For Ménard (2013), formal contracts are only one mechanism to govern hybrid transactions, and others such as trust and relational reputation may assume a central role in some hybrid forms.

In this sense, contract farming, a type of hybrids, may interact with other informal components to support transactions. Thus, relational contract is also observed in contract farming. In the relational contract, informal model of contract farming prevails, which individual entrepreneurs or small companies make simple verbal agreement with producers on seasonal basis through extension services (UNIDROIT, et al., 2015).

Contract farming is carried out when the farmers have obligation “to do” in respect to the agro-industry/distributor, besides the obligation “to give” (Benincasa, 1992; Jannarelli, 2012). The manner that the production chain is coordinated and the better synchrony within vertical stages of the agricultural production value chain are related to governance structure choice in order to reduce transaction costs. The analytical framework is synthetized in Fig. 1.

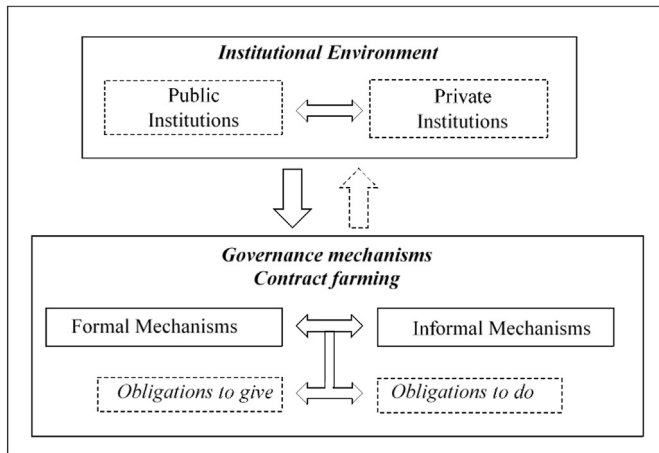


Fig. 1. Analytical framework.

In high-value chains, the consideration of strategic assets, the complexity of institutional environment and the interaction between private and public standards directs transactions to more complex forms, assuming hybrids such as contract farming. On its turn, such governance structure comprises a combination of formal and informal mechanism to deal with obligations to give and obligations to do, in order to assure coordination and the efficiency desired in transactions.

### 3. Methodology

This study adopts a qualitative and exploratory approach. By using a case study design, we analyzed the contact farming and the interaction between public and private institutions in transactions between farmers and agroindustry in high-quality dairy and coffee chains in Brazil.

The analysis was based on the New Institutional Economics (NIE) and focused on Transaction Costs Economics (TCE). We analyzed the institutional environment and interaction of public and private institutions for both high-quality dairy and coffee chains; the hybrid governance structures and contract farming considering the obligations to do and obligations to give for those chains.

The goal of a case study design is theoretical generalization rather than statistical generalization (Yin, 1989; De Vaus, 2001). By using multiple cases, more consistent insights are provided than a single case study. The case study has been used extensively in social science research; such as analysis conducted under NIE approach (Coase, 1937; Coase, 1960; Ostrom, 2007). The case study research is analytic generalization (theoretical generalization) (Yin, 1989). Analytic generalization is based on a previously developed theory that is to be used as a template in case study (Yin, 1989). Therefore, the analysis of cases is under a theoretical framework that can be replied in other cases and compare their empirical results.

The cases were strategically rather than statistically selected. The multiple case study design is to predict similar results for the study proposal. Cases from two different sectors, coffee and dairy, were chosen to be analyzed. For primary data collection, semi-structured questionnaires were applied in supporting organizations and farmers of two production systems: coffee geographically located in the state of Paraná and Minas Gerais, and dairy production located in the state of Paraná, Brazil.

Following the structure based on Yin (1989) for case study methodology, three steps were considered: 1) definition of a unit of analysis; 2) selection of cases; 3) data collection and analysis.

The New Institutional Economics (NIE) with focus on transaction costs considers the transaction as the main unit of analysis (Williamson, 1985). The transaction is a transfer of good or service across technologically separable interfaces, as proposed by Williamson (1985). In this study, the unit of analysis is the transaction between farmer and agroindustry/buyer. For the coffee case, the transaction analyzed was between farmer and buyer, using a third party, such as cooperative, association, and certifier, as intermediary for facilitating the transaction (Fig. 2). In the dairy case, the transaction analyzed was between farmer and agroindustry (Fig. 2).

This research is based on five case studies of high-quality dairy and coffee chains. For the coffee sector, three regions were selected: Cerrado Mineiro (MG); Serra da Mantiqueira (MG); Norte Pioneiro do Paraná (PR) (Fig. 3). These regions are the main areas that produce specialty coffee with certification of origin.

For dairy chain, one region of the state of Paraná was selected. In this selected region, two dairy farmers groups supply, respectively to two processors that demand supply of milk with high quality attributes. The two cases are in the region of Oeste Paranaense, in the western portion of the state (Fig. 3). That is the most important region in Paraná's dairy production, producing about 25% of the total milk in Paraná in 2014 (IBGE, 2016). One of the cases comprises a group of farmers supplying a domestic dairy company with high quality milk. The other case is about dairy farmers involved in quality programs by a multinational processing company located in the region.

Considering coffee, the region of the Cerrado Mineiro is composed of 55 municipalities in the northwest of Minas Gerais. The average annual production of coffee in this region is 5 million 60 kg bags from 4500 coffee farmers distributed in 170,000 ha ([www.cerradomineiro.org](http://www.cerradomineiro.org)). The region of Cerrado Mineiro held the first coffee in Brazil to be certified with Indication of Origin (IO) in 2005 (Ortega and Jesus, 2011). In 2013, the Cerrado Mineiro acquired the certification of Denomination of Origin (DO) for coffee. This certification is beyond the characteristics of territory because it values local human attributes.

Serra da Mantiqueira, located in the southern state of Minas Gerais, includes 25 municipalities that are traditional in coffee production since the nineteenth century. The mountainous region of cold climate, fertile soil, favorable rainfall, contributes to the quality of coffee production. The average annual production of coffee is 1.3 million bags in a total area of 69,500 ha distributed among 7800 farmers, mostly family-based ones ([www.mantiqueirademinas.org](http://www.mantiqueirademinas.org)). Serra da Mantiqueira was recognized as traditional coffee production area, which has added value to local coffee and favored sustainable development.

The colonization of the Norte Pioneiro do Paraná is linked to the coffee expansion due to its favorable conditions for cultivation (Winkler and Souza, 2012). The northern region of Paraná was the first to be occupied by coffee farmers, who were seeking lands beyond the state of São Paulo by the end of XIX century. There is a predominance of commodity coffee production in Paraná, but specialty coffee is also produced (Bronzeri, 2009). The specialty coffee produced in the Norte Pioneiro do Paraná received the Indication of Origin (IO) from National Institute of Industrial Property (NIIP) in 2012. This region includes 45 municipalities with 7500 coffee farmers, who produce about 1.3 million bags (Embrapa, 2012).

Dairy cases are both located in the state of Paraná (Fig. 3). Paraná state is located in the south of Brazil, being the third largest dairy producer in the country, with 13% of national production in 2014, which means 4.53 billion liters of milk (IBGE, 2016). Dairy production is accomplished mostly by family-based farmers in the state: official data states that more than 100 thousand dairy



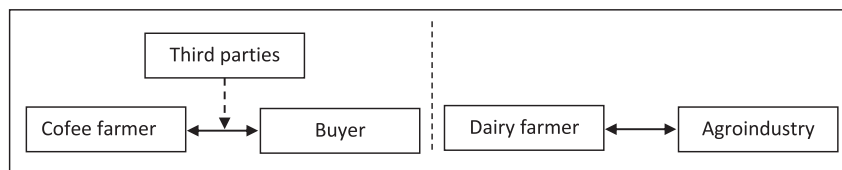


Fig. 2. Coffee and Dairy transaction analyzed.

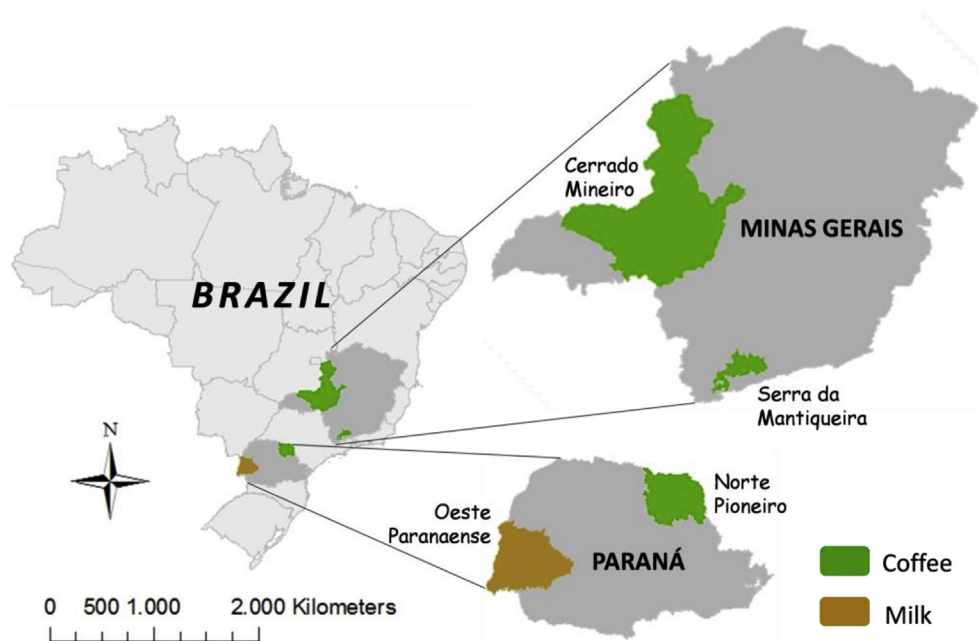


Fig. 3. Coffee and dairy cases in "pingado dilemma".  
Source: Based on IBGE/DGC, (2014) and MT (2010).

farmers in Paraná were family-based farmers in 2006, comprising 84% of total dairy farmers in the state (IBGE, 2006).

From the cases selected, data gathered through direct face-to-face semi-structured questionnaires. The number of interviews was a non-probabilistic sample since the purpose of the case study is not the statistical generation. The number of interviews for each case followed the rational of theoretical saturation convergence of responses (Merriam, 2008). During field visits, direct observations by interviewers were considered for a deep understand of each case. Besides the interviews, secondary data from documents, journals, and reports of coffee and dairy sectors were used. Different sources of evidence are complementary and help in making a good case study (Yin, 1989). The main source of information is the data collection based on semi-structured interviews and meetings with the associations, cooperatives, farmers, and agroindustry involved in the production system of coffee and milk with quality attributes.

The studied regions were visited in the period from March to April of 2015. For coffee cases, the total of semi-structured questionnaires applied was 36, divided in: 13 interviews in the Cerrado Mineiro (ten with the coffee farmers; one with the business agent of cooperative; and two with the representatives of Coffee Farmers from Cerrado Mineiro Federation); 15 interviews in Serra da Mantiqueira (twelve with the coffee farmers; two with the representatives of Coffee Farmers from Serra da Mantiqueira Association, and one with the president of Coffee Farmers from Serra da Mantiqueira Cooperative); eight interviews in Norte Pioneiro do Paraná (five with the coffee farmers, one with the president of the

cooperative, one with the president of Norte Pioneiro Paraná Coffee Farmers' Association; one with a consultant of Brazilian Micro and Small Business Support Service - SEBRAE).

For dairy cases, interviews were carried out in November 2014, for one case, and in October and November 2015, for the other case. The first case comprises a domestic dairy company that buys raw milk through different forms: parts of its supply comes from oral agreements with about 90 dairy farmers, and part of raw milk comes from contract farming with six dairy farmers. We considered transactions under contract farming arrangement, and interviewed three farmers and the CEO of the dairy company.

The second case comprises dairy farmers engaged in quality programs by a multinational dairy company, supplying raw milk with high quality attributes. For this case, we conducted interviews with five farmers and one representative of the dairy agroindustry. In addition, we analyzed the company's manual on Good Farming Practices (GFP) and other documents concerning transactions between farmers and processor, to complement our analysis on the case. The total of 10 interviews were performed in the dairy case.

## 4. Results and discussion

### 4.1. Institutional environment for high-quality coffee and dairy chains

For coffee and dairy sector, formal and informal institutions are observed. In terms of coffee, it was an internationally regulated commodity. Coffee as a commodity has neither physical nor non-

physical attributes differences (Dickson and Ginter, 1987; Niederhauser et al., 2008). In Brazil, the Ministry of Industry and Commerce created the Brazilian Coffee Institute (BCI) in 1962 to implement the “rules of the game” established by the International Coffee Agreement (ICA), to coordinate the coffee production and to control the internal and external marketing of coffee (Saes and Nakazone, 2002). The price of coffee was set at a single level, which discouraged the coffee farmers to invest in coffee differentiation (Saes and Spers, 2006; Saes and Silveira, 2014).

In the early 1990s, the BCI was extinguished, the fixed coffee price has been disabled, and the Brazilian Coffee Industry Association (BCIA) implemented the “Purity Label” (Saes and Nakazone, 2002). With this new scenario, the coffee industry players initiated the adoption of differentiation strategy with high added value for coffee production (Zylbersztajn et al., 2001; Saes and Spers, 2006).

The green coffee was classified according to public institution. The Ministry of Agriculture, Livestock and Food Supply approved on June 11th, 2003 the Normative Instruction n° 8 (NI8). The NI8 approaches technical regulation of identity and quality for green coffee classification. The attributes for classifying the green coffee are: coffee species; design of grain; grading; aroma; flavor; beverage; color; and quality (Santos, 2012). However, the NI8 does not take into account social and environmental issues, thus private institutions fulfill these gaps.

In order to differentiate coffee, distinguished signals are used, such as brands and geographical indications, which are included in the list of intellectual property rights. The Law n° 9279 of May 14th, 1996 regulates the differentiated signs in terms of intellectual property rights (Gurgel, 2005). The geographical indication identifies and protects products originated in a specific geographical area, which characteristic and reputation are essentially linked to the territory of origin.

A range of differentiated certifications is given by third parties for specialty coffee is part of differentiation strategy: geographical indications; Fair Trade certification; Rain Forest certification; and among others (Saes and Spers, 2006; Zylbersztajn et al., 2001). The certifier performs quality control along the chain through private institutions.

In terms of dairy, its production system in Brazil can be divided in three phases, according to Januário (2014). The first phase begun in 1945, when the State controlled dairy production, and regulated the milk price. The second phase was in the end of 1980s and beginning of 1990s, when the State decreased its participation on regulating the market. At this period, private rules for quality attributes were introduced and the trade of milk was not controlled by the State anymore. Private standards emerged in that phase, especially concerning food safety (Reardon and Farina, 2002). The third phase started in 2002 with the creation of both the National Program for Dairy Quality Improvement and the Normative Instruction 51 (NI51/2002) from the Ministry of Agriculture, Livestock and Food Supply. This normative designed important rules for quality control of milk production in order to make Brazil a more competitive country in the international market. NI51 was reformulated to NI62/2011, into force since 2012.

NI62/2011 is part of the “National Program for Milk Quality Improvement”, comprising a set of actions to promote quality, safety and food safety in dairy chain. NI62 establishes rules of minimum quality standard requirements for dairy production. Despite the emergence of public standards for healthy, safety and milk quality, quality problems are still a weakness (Spears et al., 2013), driving to the intensification of private institutions to solve these problems.

To transact coffee or milk with quality attributes, private institutions are necessary, besides the public institutions. The

privatization of norms is committed to the operation of the market, besides the traditional legal measures. The market is dynamic and new arrangements are adapted to follow the market (Jannarelli, 2012; Ferrarese, 2002). Markets have been segmented and the strategy of differentiation is adopted to offer products and services with quality attributes, origin, social and economic issues.

Coffee and milk with quality attributes require more control and coordination of production system, different from commodity products. By using contract farming, farmers are linked to agro-industry/distributor and the control of production is feasible. Different countries have chosen to regulate contract farming in different ways (Pultrone, 2012). In Brazil, contract farming is widely performed as tool for coordinating agricultural production system, mainly in poultry and hog supply chain (Souza and Zylbersztajn, 2011; Souza and Bánkuti, 2012; Bánkuti and Souza, 2014). Contract farming has also been performed in dairy and coffee sectors with the need of controlling their production and attending the quality attributes required. However, there is no specific law to regulate contract farming and the parts involved in the relationship develop private mechanisms for agreement enforcement.

The absence of a specific legal framework for contract farming might lead to misunderstandings, especially when the Judiciary is called upon to settle the disputes on contract farming. For example, in Brazil, labor issue in the citrus field was observed in sentences of the Brazilian Labor Justice.<sup>1</sup> On the other hand, it was not the same in the poultry field in a sentence that the judge did not considered the farmer as labor of agroindustry.<sup>2</sup>

The coffee deregulation caused the differentiation strategy to introduce coffee with quality attributes, such as specialty coffee. The main coffee differentiation parameters to be classified as specialty coffee are: type of coffee; quality of the beverage; locational quality of production; environmental quality of the production process; social quality. The concern for the origin of the product has spread in the global market that is willing to pay a premium to consume products with quality attributes of origin (UNIDO, 2010; Cafaggi et al., 2012; Raynaud et al., 2005).

Dairy sector in Brazil is known for its heterogeneity and has undergone restructuring process since the 90 decade. Although public institutions have recently been improved to face sanitary problems in that productive chain (e.g. Normative Instruction 62), quality problems are still a weakness, sometimes leading to vertical coordination (Farina et al., 2005). In this context, different forms of organization have emerged. One is the contract farming by a domestic medium-sized company, and the other is the case of private standards by a multinational company to assure high quality milk.

#### 4.2. Hybrid governance structures in high-quality coffee and dairy chains

For specialty coffee, Saes and Silveira (2014) observed different institutional arrangements: for organic coffees, long-term contracts

<sup>1</sup> Labor Court in Matão, 15th Region, State of São Paulo, in a lawsuit filed by the Labor Public Prosecutor against the SucoCítrico Cutrale Ltd., Louis Dreyfus Commodities Agroindustrial S/A, Citrovita Agro Industrial Ltd, and Fischer S/A, condemned them to abstain hiring farmers to perform activities, such as production and harvesting citrus fruits that are used in the industry activity (juice production) (Brasil, 2010).

<sup>2</sup> Labor Court in Porto Alegre, 4th Region, State of Rio Grande do Sul, in a lawsuit filed by the farmer Edemir Antonio Fonini against the Frangosul S/A Agro Avícola Industrial. PARTNERSHIP AVÍCOLA. EMPLOYMENT RELATIONSHIP. ABSENCE. Poultry integration contract hypothesis. Farmer, who creates chickens to resell them to agro industry, even getting the raw material, technical advice and veterinary care, cannot be considered employed. Absent the payment of wages and the legal subordination characterizing the employment relationship. Provision denied (Brasil, 1998).

(formal and informal) are performed; for Bourbon coffee, that has a limited supply and its asset specificity is high, its production is totally integrated (vertical integration governance structure). For other specialty coffees, the company adopts different forms, e.g., the company produces its own coffee and complements the supply acquiring the coffee from other farmers through long-term contract.

In terms of milk with quality attributes, different institutional arrangements are observed. Bánkuti, Souza Filho and Bánkuti et al. (2008) observed short-term contracts, mostly informal contracts, in dairy chain. They also observed more tied relationship with formal contract between dairy farmer and agroindustry, especially due to time and site specificities. The formal contract was observed when the agroindustry intermediates the acquisition of milk tank for storing dairy at the farm. However, formal contracts are not so common in dairy system in Brazil.

According to Januário (2014), hybrid governance with formal and informal contracts was observed in the analysis of two cases. Because of Normative Instruction 62 (NI62) that requires mandatory quality attributes, relational contract was observed in the case that the agents have already adopted quality attributes before the NI62 and the reputational ties were already consolidated. However, in the other case, when the agents had not adopted quality attributes before the NI62, the relationship between dairy farmer and agroindustry became more formalized because of competition to obtain milk.

Although different institutional arrangements for dairy and coffee with quality required, this study is focused on hybrid form of governance structure, more specifically on contract farming.

### 4.3. Cases description and results

#### 4.3.1. The coffee cases

**4.3.1.1. Coffee from Cerrado Mineiro.** The coffee from Cerrado Mineiro was the first and currently the only one to achieve denomination of origin (DO) certification. The Federation of Coffee Farmers from Cerrado controls the DO certification of Cerrado Mineiro. The Federation consists of eight associations and eight cooperatives and attends 4500 coffee producers who are entitled to use the DO. Moreover, warehouses and exporters are also certified, that ensures traceability of the whole production (CACCER, 2009).

The seven requirements for the coffee farmer to use the DO of Cerrado Mineiro certification are: 1) the property must be located within the area of the Cerrado Mineiro; 2) coffee production area must be from 800 m up to 1300 m altitude; 3) *Coffea arabica* is the official specie; 4) minimum quality of 80 points, based on the methodology of the Specialty Coffee Association of America - SCAA; 5) use of good agricultural practices and respect for the Brazilian legislation; 6) lots of coffee should be stored only in cooperatives/warehouses that are certified as well; 7) use of only official bags, identified with the Origin and Quality Assurance Seal Label ([www.cerradomineiro.org](http://www.cerradomineiro.org)).

Cooperative of Coffee Farmer from Cerrado Mineiro (EXPO-CACCER) trades the specialty coffee with DO of Cerrado Mineiro certification. For selling coffee with quality attributes to a specific buyer, the EXPOCACCER organizes a group of coffee farmers who are able to meet such requirements. Therefore, the EXPOCACCER is the transaction facilitator to link coffee farmer to the buyer. Earlier, there is no formal contract. EXPOCACCER invites the coffee farmer to be part of a group and the instructions to meet the quality attributes are informal. Generally, buyers require certification, such as Rain Forest, or Fair Trade, which reduces the cost of monitoring for the buyer. The specialty coffee contract is a long-term contract with a premium price. The contract is performed between the EXPOCACCER and the buyer. However, the “obligation to do” is

informal and based on the communication and orientation from cooperative/association and certifiers to farmers.

**4.3.1.2. Coffee from Serra da Mantiqueira.** The Association of Coffee Farmers from Mantiqueira (APROCAM) represents farmers from Serra da Mantiqueira. In 2011, the APROCAM acquired the Origin Indication (OI) that recognizes the Region of Serra de Mantiqueira in Minas Gerais, which comprises 25 municipalities. Coffee farmers follow the requirements of the Use Regulations for GI. Those comprise: a) the coffee variety is *Coffea arabica* L.; b) the property must be located within the 25 municipalities; c) farmers are associated with entities that form the Regulatory Council: APROCAM, COCARIVE, COOPERRITA; d) coffee area production must be from 900 m up to 1400 m altitude; e) environmental responsibility; f) labor must respect the current labor laws; g) high quality coffee with a minimum score of 80 points of the SCAA methodology; h) coffee must present minimum of four and maximum of 26 defects; i) the coffee should be deposited in warehouses of COCARIVE and/or COOPERRITA ([www.mantiqueirademinas.org](http://www.mantiqueirademinas.org)).

In 2013, the APROCAM launched the Mantiqueira de Minas brand as internationalization strategy for the coffee from Serra da Mantiqueira. The internationalization project for the coffee from Mantiqueira is coordinated by SEBRAE and includes 7800 farmers in the region of Serra da Mantiqueira (Monteiro, 2013). In addition to OI and to the Mantiqueira de Minas brand, many family-based farmers have the Fair Trade label, which also requires coffee with quality and promotes sales with premium price of approximately 20% beyond market value.

The Fair Trade certification involves small farmers and encourages collective action. To obtain certification Fair Trade, coffee farmers from Serra da Mantiqueira are part of the Association of Coffee Farmers from Vale do Rio Verde (ASCARIVE), which coordinates and monitors the farmers to meet the requirements of the Fair Trade.

The decision of the farmer for adopting certification is related to the prize value received with the sale of the coffee. The cooperative sells the specialty coffee, so the contract is performed between the cooperative and the buyer. The cooperative/association controls the specialty coffee production and all “obligation to do” is informal and informed through ASCARIVE technical assistance visits to the farmers.

**4.3.1.3. Coffee from Norte Pioneiro do Paraná.** Specialty Coffee from Norte Pioneiro do Paraná Project started in 2006 with the aim to recover Norte Pioneiro do Paraná as coffee producer with quality attributes; improve coffee price; and organize coffee farmers. The Association of Specialty Coffee from Norte Pioneiro do Paraná (Acenpp) was created in 2008 to motivate a movement for the development of specialty coffee (Bronzeri and Bulgacov, 2014). The Association is composed by 12 groups of coffee farmers.

The coffee produced by the members of Acenpp was the first product to be certified with the Origin Indication (OI) in Paraná in 2012. For the assessment of coffee, Acenpp uses the service of Coffee Quality Institute (CQI). This cooperative has the following certifications: OI; Fair Trade; UTZ and Rain Forest.

Although there is an OI certification since 2012, coffee farmers are rather using the Fair Trade certification because of the prize value. The specialty coffee is sold through Cocenpp. The contract for selling specialty coffee is a long-term contract between the cooperative and the buyer. The production of specialty coffee is monitored and controlled by Acenpp and the “obligation to do” is informal.

Cocenpp has difficult to gather the quantity to compliance the contract carried out with the buyer. The fact is that some farmers sell the coffee to other buyers, instead of Cocenpp. Although the

farmers are part of Cocenpp, the reputation ties among them are not consolidated. In order to avoid the selling of coffee to other buyers, a pre-contract for coffee delivery guarantee has been discussed.

**4.3.1.4. Coffee contract farming.** For all the coffee cases, we can observe the requirement for intrinsic and extrinsic quality attributes, especially concerning origin, sensorial attributes and production process. The specialty coffee of the cases analyzed geographical indication and different certifications, such as Fair Trade, Rain Forest, among others. The geographical indication promotes coffee farmers whose coffee production is located within the territory, which hinders the use of the region name by opportunists.

The geographical indication and the certification for specialty coffee, besides determining the origin, inform the quality level that the coffee must achieve. Even coffee with Fair Trade certification, which concerns social and environmental issues, needs to achieve a minimum quality score. The distinctive signs, such as brand, geographical indication, organic certification, Fair Trade certification, promote more efficient transaction through lower transaction costs.

The differentiation strategy affects the transaction attributes within the chain and hence implies the design of the governance structure (Raynaud et al., 2005). According to Williamson (1990, 1996), governance structures are aligned with the transaction attributes to reduce transaction costs. The introduction of the specialty coffee market affected the governance structure that passed from spot market to vertical integration or long-term contracts for better coordination (Barra et al., 2007; Saes and Silveira, 2014).

Coffee farmers make specific investments to meet the certification requirements, regardless of buyer. Quality control along the chain is performed by third-party certifier, which has interest to accomplish this task. The cost of monitoring coffee production decreases for companies that buy certified products. Therefore, some buyers, e.g. Nestlé and Starbucks, have the preference to buy coffee from farmers who possess some certification, such as Fair Trade, Rain Forest or UTZ.

The specialty coffee buyer also wants to know the origin of coffee in terms of farm level. The buyer wants to know the farmer who produces coffee and builds the loyalty in the relationship, despite the marketing be carried out generally by the cooperative. So, field visits are performed every year to strengthen ties. For the production of specialty coffee, differently from commodity coffee, each lot must be negotiated almost individually. The specialty coffee demands is high and buyers' purchase depends on the premium value paid to farmers and the reputation built in the relationship. According to farmers, Japanese buyers offer high premium value and the image of the farmer is informed to the consumer. Thus, the final consumer knows the origin of coffee. There is no formal contract between farmer and buyer, because they trust each other, as the frequency of transactions have led to a good reputation for both parties.

The coffee cases analyzed presented collective action of coffee farmers through associations to promote and cooperatives to trade specialty coffee. According to Bronzeri and Bulgacov (2014), coffee farmers can improve their results through the organization of coffee farmers in collective action, such as associations or cooperatives. Collective action provides continuity of supply of specialty coffee grains on a large scale and the formation of partnerships with the buyer.

The private interest associations (PIAs) have an essential role to facilitate negotiations as well (Barra et al., 2007). The PIAs act as informal safeguard because they collaborate on activities based on trust, act as quality signaling providers through certification

mechanisms, organize and guide the producers, and coordinate the production system to meet a certain niche market. As well as PIA, the cooperative is also a facilitator of the transaction and both are part of the organizational environment.

The negotiation of specialty coffee is informally facilitated by PIAs or cooperatives and subsequently the supply contract is formalized between cooperative and buyer. However, few companies have formal supply contracts with specialty coffee farmers. The contracts are between the cooperative and the buyer, but prevails relational contract. According to research conducted by Zylbersztajn et al. (2001), few companies formalized contracts due to sufficient supply of raw materials and fluctuations in market prices.

The institutional arrangement of transactions between farmers and processing companies of specialty coffee is complex. The contracts are long-term for the guarantee of specialty coffee supply to the processing companies. These long-term contracts can be relational or formal with the purchasing company and mediated by a third party, such as cooperative or PIA.

The level of dependence between the parties involved in the transaction to purchase specialty coffee is low because the risk belongs to farmers. However, there is the monitoring of production that relies on coffee certification. To obtain the certification, the producer must follow the "obligations to do" of the certification that is conducted informally through the orientation of cooperative, association and certifiers' technical assistants. Therefore, the "obligation to do" is informal and the "obligation to give" is formal in contracts that seem a contract of selling specialty coffee. However, more than selling specialty coffee, "obligation to do" is involved in those complex transactions.

#### 4.3.2. The dairy cases

**4.3.2.1. Dairy contract farming in Paraná.** As empirical evidence, we discuss a medium-sized dairy processor in the state of Paraná. Transactions between dairy farmers and downstream agents in Brazil are mostly carried out through hybrid forms, mostly in informal contract basis (Bánkúti et al., 2008). Amongst hybrids is an innovative form of organization in dairy chain, the contract farming.

Transactions in this case involve since six suppliers are under tied relation closer to vertical integration and other 92 farmers supply milk under long-term relationships, through oral agreements. The former are under contract farming with high level of dependency since the processor supplies the cows to those six farmers. The later 92 farmers are under long-term relationships with low level of dependency. Final products include pasteurized milk, yogurt and cream milk, amongst others. The importance of high quality raw milk remains on the need to reach high quality attributes in final products.

Contract farming between processor and farmers establishes that the former provides cows in milk, feed and technical assistance for dairy farmers. Farmers are obliged to follow a protocol of best practices in pasture, nutrition, sanity and milking management, as well as to provide appropriate infrastructure and corn silage to cows.

Quality standards of raw milk, as well as other terms related to "obligations to do" are not settled in the contract, being orally agreed between parties. Farmers are charged 12% of the value of milk in order to pay for the "cow rent", as well as for feed. Technical assistance provided by processor, on one side, helps farmers to follow the protocol of best practices and, on the other side, supports contractor's monitoring and control over assets (cows).

**4.3.2.2. Dairy farmer under quality programs.** In the second case, dairy farmers supply raw milk to a multinational company with a



processing unit in the region. Although dairy farmers have other potential buyers in the region, they prefer to transact with this company, since the companies pays for quality.

For dairy farmers supply that company, some criteria are considered, such as: a) distance from the farm to the nearest reception unit (check done through a GPS device); b) good access conditions to the farm and the cooling tank; and c) farm's infrastructure, such as cooling tank, milking installations and quality and safety conditions. The farms are assessed according to items described in the company's manual of Good Farming Practices (GFP).

After farm's assessment, the farmer receives the manual of GFP, comprising cow handling, infrastructural, sanitary, environmental and social requirements. All farmers are required to read it and to sign an agreement that he/she is conscious of his/her obligations and duties. In addition, the term of agreement concerns the use of antibiotics for cattle treatment and its restrictions in terms of milk collected. Adhesion to GFP program is voluntary, but most farmers do it, since it allows an R\$0.03 bonus per liter of milk (around 3% on price per liter).

**4.3.2.3. Dairy contract farming.** In dairy cases, we can observe the presence of intrinsic and extrinsic quality attributes in transactions, comprising food safety and microbiological aspects, and process technology and practices. For the first case, since contract farming involves high investments from both sides, it is highly directed to “obligations to do”. In addition, controlling the process is important to warrantee quality in product in that case, and contract farming emphasizes the protocol of best practices. In that contract, volume is put as an “obligations to give”, since the processor has an expectation over cow productivity. In this sense, we can observe that milk daily productivity is higher (around 30 L per cow in milk), when compared to average production in conventional system from the other 92 suppliers (20 L/cow in milk), and average in Brazil (4.5 L per cow in milk) (USDA, 2015).

Thus, “obligations to do” comprise quality standards and handling, being much more severe than those demanded from other suppliers. Even though these obligations are not written in the contract, the technical assistance works as a mechanism of control, allowing the processor to advise but also monitor suppliers' performance.

Contract farming in this case is motivated by the need of high quality standards for raw milk, and processor's difficulty to obtain it from independent dairy farmers in Brazil. Thus, institutional arrangement is supported by private institutions. While public institutions (NI62) state more lenient minimum quality requirements (Somatic Cell Count - SCC: 600,000/ml; Total Bacterial Count – TBC: 600,000/ml; Fat: 3.0%; Protein: 2.9%), the processor's standards are more rigid, requiring from contracted farmers higher quality levels (Somatic Cell Count: 200,000/ml; Total Bacterial Count: 50,000/ml; Fat: 3.2%; Protein: 3.2%).

For the second case, the company is concerned with milk quality and farmers under quality program follow the manual of GFP. In this case, dairy farmers do not receive cows from the processor, but they must follow all the requirements described in the manual. The “obligations to do” are described in the manual and dairy farmer signs a term of agreement.

The company encourages farmers to work on quality improvement with a payment system composed of bonus or discounts on milk price according to quality parameters, as well as volume and distance. Compared to public institutions, private institutions establish more detailed requirements concerning farming practices, as well as more rigid requirements in terms of quality, food safety and sustainable practices. Parameters include Somatic Cell Count – SCC (bonus if below 400,000/ml; discount if above

500,000/ml); Total Bacterial Count – TBC (bonus if below 200,000/ml; discounts if above 300,000/ml); protein (bonus if above 3.10%; discount if below 2.9%); fat (bonus if above 3.3%; discount if below 3.0%).

NI62 requires one quality analysis of farmer's milk sample per month, but company accomplishes four analyses every month. All results are available to farmer's access through internet. According to farmers, it helps to identify quality problems fast and correct quality problems before the end of each month; it is also important for the payment, since milk quality information for payment (SCC, TBC, protein and fat) is calculated considering all the four analysis.

The term of agreement represent a formal contract for farmers under GFP program. Moreover, the company's website brings detailed information concerning the relationship with dairy farmers, raw milk quality requirements and criteria for paying raw milk to farmers, such as parameters for bonus and discounts on price. Through their payment system, high-quality milk can value around 30% more than average milk and 50% more than low-quality milk.

Since farmers sign a term of agreement with GFP, the processor enforces obligations to do through formal contract. Obligations to give, especially concerning quality, are enforced through payment system, since the higher the quality, the higher the price.

Those forms of organization in dairy chain bring some remarks on contract farming and private institutions in Brazil. It is important to mention that Brazilian dairy context is embedded in informal rules comprising consumer habits and production practices, indicating the importance of path dependency. In this sense, although formal institutions imply quite lenient quality standards, historical context in Brazilian dairy chain indicates such standards are still difficult to be reached by most farmers. Pinto (2013), for instance, indicates that 27% and 40% of dairy farmers did not reach minimum SCC and TBC standards in Brazil in 2012, respectively. In the South, such percentages were, respectively, 34% and 52% (Pinto, 2013).

Once public standards are not rigid, and formal/informal institutional background gives support to it. It might be difficult to find farmers willing and capable to adjust production system to higher quality standards. Efforts to achieve high quality standards might be unattractive for most farmers, since one can find buyers for raw milk produced according to formal minimum quality requirement (NI62) or even below public standard requirements. In addition, informal institutions related to dairy systems and milk quality may raise a barrier, once it might demand changes in production systems, compared to traditional practices of handling, infrastructure, feed system, milking methods, among others. Indeed, farmers engaged in contract farming in the first case are those beginning in the activity (less than four years in dairy activity), thus not embedded to old practices.

Thus, contract farming in these cases are a way of supplying high quality milk, involving “obligations to do”, not only “obligations to give”.

## 5. Conclusion

For having a good “pingado”, coffee and milk should be of good quality. However, differently of commodity product, coffee and milk with quality attributes require more control and coordination of production system. The institutional arrangements of both coffee and dairy sectors are complex.

The transaction in both cases involve “obligations to do” and “obligation to give”, which are characteristics of a specific hybrid form, the contract farming. However, they differ regarding its formality. It is a dilemma for farmers and agroindustry, to go under formal or informal contract farming.

For specialty coffee production, third parties, such as

association, cooperative and certifier, are indirectly involved in the transaction between coffee farmer and buyer. The coffee farmers make specific investments to attend the certifier, independently of the buyer. The “obligation to do” are not formally defined in the contract farming. The quality attribute of specialty coffee is mainly focused on the SCAA standards, even though locational, environmental and social requirements are attended and guaranteed by the certifiers. The standard of SCAA for evaluating coffee quality attribute is a known private institution. The coffee that reaches the minimum standard established by SCAA, which facilitates the international sale.

The contract for selling the specialty coffee is performed between cooperative and buyer. This sale contract, in general, specifies the “obligation to give”: the quality of coffee; the price; the quantity. The level of dependency is low since coffee is partial perishable and the demand for specialty coffee is high. The guarantee of purchasing specialty coffee is related to the prize value paid for coffee and the reputation built in the transaction between farmer and buyer.

In terms of milk with quality attributes, the buyer interferes directly on milk production providing the inputs and technical assistance to the farmer. In order to reach higher quality standards, the buyer established his own rules of quality (private institutions). Therefore, private institutions prevails and the “obligation to do” for quality standard is not written in the contract since the mode of producing the milk is oriented informally by the buyer technical assistant. However, for the dairy cow care, farmers are obliged to follow a protocol established by the contractor. Thus, the “obligation to do” for dairy cowcare is formalized in the contract farming. The sale contract also comprises the “obligation to give”, such as quantity and price of milk. As the milk is a perishable product and all specific investments are made to attend the buyer, the level of bilateral dependence is high. Therefore, contract farming in the milk case are more complex and the role of private institutions is important.

Contract farming is observed for acquiring milk or coffee with quality attributes. Although this type of contract has been performed for a long time in different production system, in Brazil it is not regulated by the State with a specific legal law.<sup>3</sup> Therefore, informal institutions for “obligation to do” are observed in order to avoid the misunderstanding of characterizing the contract farming as a labor relation.

For both cases, we have observed that transactions between farmers (or cooperatives) and the buyers are complex although they differ the level of formality. There are formal contracts which involved “obligations to give”, and relational contracts regarding “obligations to do”, except for food security issues. Private institutions arise when public institutions are not present or are deficient to regulate market demands. We observe the importance of private institutions for both cases for guaranteeing product quality. It was observed that quality attributes are different in both cases. While in milk, quality is related to food safety sector, the private institutions reinforce public requirements (formal institutions). For the coffee sector, the role of private institutions is to establish and guarantee a new level of quality and differentiation.

It is important to highlight that adopting formal or informal contract is not a sweet decision. It is based on the level of dependency between parties, asset specificities involved and the role of public institutions in the market.

This work does not exhaust the understanding of the interaction between public and private institutions, formal and informal

institutions. Much research is needed. There is a potential also using other theories, such as measurement cost and resource-based view, for analyzing this interaction between public and private institutions, formal and informal institutions.

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<sup>3</sup> A specific law for this type of contract, Law 13,288, was only promulgated on May 16th, 2016.

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